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Abstract : The stability analysis and control law design of the contemplated light combat aircraft needs derivation of linear aircraft models from non-linear flight simulation models.

This document presents the linear longitudinal and lateral state and observation models of the LCA version 645-33 obtained from NAL developed software for a dozen representative conditions in the flight envelope. Poles and zeros of the corresponding transfer functions have been generated and compared with those obtained by the Aircraft Prime. The comparisons give confidence in the use of the models obtained from the NAL software for control law design.